Claims

1. A method in connection with winding of a paper or board web, in particular a tissue paper web, at a slitter-winder, in which method the web is wound into a web roll/web rolls (4) around a core/cores (5) on support of winding drums (6, 7), in which method a winding shaft (3) is passed inside the core/cores (5) for the duration of winding, **characterized** in that, in the method,

(a) an empty core / empty cores (5) is/are placed on support of the winding drums (6, 7),

(b) the winding shaft (3) is brought to the ready position in order for it to moved inside the core/cores (5),

(c) the winding shaft (3) is pushed inside the core/cores,

(d) when winding makes progress, the winding shaft (3) is moved in the direction of growth of the web roll/web rolls (4),

(e) when the web roll (4) has been finished, the winding shaft (3) is removed from inside the core/cores,

(f) a new winding operation is started and a winding core/winding cores is/are placed on support of the winding drums.

2. A method as claimed in claim 1, **characterized** in that a fixed end of the winding shaft (3) is fixed to a pulling sledge (2) moving on guides (1), and that a free end of the winding shaft (3) is attached, for the duration of winding, to a second pulling sledge (8) moving on guides (9).

3. A method as claimed in claim 2, **characterized** in that, when the winding makes progress, the winding shaft (3) is moved in the direction of growth of the web roll/web rolls (4) by moving the pulling sledges (2, 8) on the guides (1, 9) in a corresponding manner.

4. A method as claimed in claim 1, **characterized** in that a free end of the winding shaft (3) is supported by a support member (15) when the winding shaft (3) is not inside the core/cores (5).

5. A method as claimed in claim 1, **characterized** in that, after the winding has been completed and the winding shaft (3) has been moved away from inside the core/cores (5) upon the completion of the web roll/web rolls (4), the shaft pulling sledges (2, 8) are moved on the guides (1, 9) to the ready position for starting a new winding operation.

6. A device in connection with winding of a paper or board web, in particular a tissue paper web, at a slitter-winder, which device comprises a winding shaft (3) to be pushed inside a core/cores (5), around which core/cores (5) the web is wound into a web roll/web rolls (4), and winding drums (6, 7) for supporting the core/cores and the web roll/web rolls being formed around the core/cores, **characterized** in that the device comprises means for pushing the winding shaft (3) inside the core/cores (5) to start winding and to remove the winding shaft (3) from inside the core/cores after the winding has been completed, and means (1, 2, 8, 9) for moving the winding shaft (3) in the direction of growth of the web roll/web rolls (4) when the winding makes progress.

7. A device as claimed in claim 6, **characterized** in that one end of the winding shaft (3) is fixed to a shaft pulling sledge moving on guides (1) and the other end of the winding shaft (3) is detachably attached, for the duration of winding, to a second shaft pulling sledge (8) moving on second guides (9).

8. A device as claimed in claim 6, **characterized** in that the device further comprises a support member (15) for supporting a free end of the winding shaft (3) when the winding shaft (3) is not in the winding position inside the core/cores (5).

9. A device as claimed in claim 6, **characterized** in that the device comprises a winding shaft (3) to be pulled out from inside the core/cores (5) of a finished web roll (4) and pushed inside an empty core/cores (5), which winding shaft is integrally and functionally a part of the slitter-winder of the tissue paper web; winding drums (6, 7) for supporting the web roll; a pushing device (14) for pushing the finished web roll onto a lowering device or lowering cradle (10), a locking device (11) for locking the core/cores (5) against the winding drums (6, 7,); and a positioning device (13) for placing the core/cores in the pushing-in position between the winding drums (6, 7) for pushing in the winding shaft (3) and for pressing the tissue paper web (12) so that it is unmovable against one winding drum (6, 7).

10. A device as claimed in claim 9, **characterized** in that the positioning device (13) is preferably a profile or pressing element which extends parallel to the axis of the web roll (4) and which is pivotably attached to the pushing device (14) by means of a bearing journal and loadable at least against one winding drum (6, 7) by a loading means, preferably a hydraulic cylinder.

11. A device as claimed in claim 9 and/or 10, **characterized** in that the locking device (11) of the core/cores (5) is formed by at least one suction cup beam extending parallel to the axis of the roll (4).

12. A device as claimed in claim 9, **characterized** in that the pushing device (14) is arranged to operate after the shaft (3) has been pulled out from inside the core/cores (5).

13. A device as claimed in claim 9, **characterized** in that the winding drum (3) has been mounted by means of bearings at its fixed end to a shaft pulling sledge (2), which moves vertically on the centre line of the winding drums (6, 7) on support of linear guides (1), and that said shaft pulling sledge (2) is movable horizontally in the direction of the axis of the core/cores (5).

14. A device as claimed in claim 13, **characterized** in that the shaft (3) is relieved, when needed, by a relief means, preferably a hydraulic cylinder, acting on the shaft pulling sledge (2).

15. A device as claimed in claim 12 and/or 13, **characterized** in that at a free end of the shaft (13) there is an attachment neck from which the shaft can be attached, using bearings, to linear bearings of a frame of the slitter by means of a shaft locking device, by which the shaft (3) can also be relieved, when needed.

16. A device as claimed in claim 15, **characterized** in that the shaft locking device comprises a backing spindle to keep the cores (5) in place.